

Ichiji Tasaki

Ichiji Tasaki, MD

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Highlights of Ichiji Tasaki's Work

1. Development of a method of isolating single vertebrate nerve fibers and of measuring electrical properties of the myelin sheath and node of Ranvier (demonstration of saltatory conduction in the myelinated nerve fiber) *Am. J. Physiol.*, 125, 380 (1939); 127, 211, (1939); *Pflueger's Arch. f. d. ges. Physiol.* 244, 696 (1941), 245, 764 (1942).
2. Demonstration of traveling waves in the guinea pig cochlea by recording cochlear microphonics. *J. Acous. Soc. Am.* 24, 502 (1952).
3. Recording of afferent impulses from individual primary auditory nerve fibers. *J. Neurophysiol.* 17, 97 (1954).
4. Invention of the double-cannulation method of internal perfusion of the squid giant axon and analyses of the bi-ionic action potential. *Acta Physiol. Scand.* 52, 195 (1961); *Proc. Nat. Acad. Sci.* 58, 2246 (1967). Physiology and Electrochemistry of Nerve Fibers. Academic Press, New York (1982).
5. Demonstration and analyses of extrinsic fluorescence signals associated with nerve excitation and conduction. *Proc. Nat. Acad. Sci.* 61, 883 (1968); *Photochem. Photobiol.* 24, 191 (1976).
6. Development of the polyvinylidene fluoride (PVDF) method of detecting rapid heat production in nervous tissues. *Biochem. Biophys. Res. Commun.* 101, 172, (1981); *Biophys. J.* 55, 1033 (1989).
7. Demonstration of physical-chemical changes and analyses of rapid swelling in nerve fibers, cells and synapses associated with excitation processes. *Biochem. Biophys. Res. Commun.* 95, 1328 (1980); *Ferroelectrics* 220, 309 (1999).
8. Demonstration and analyses of macromolecular phase-transitions associated with Ca²⁺-Na⁺ exchange in biopolymers and nervous tissues. *Biopolymers* 32, 1019 (1992); *Jpn. J. Physiol.* 49, 297 (1999); *J. Theor. Biol.* (2002).

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